



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Docket No: Q65201

Takashi MARUKO, et al.

Appln. No.: 09/891,654

Group Art Unit: 3711

Confirmation No.: 5513

Examiner: Thanh P. DUONG

Filed: June 27, 2001

For: MULTI-PIECE SOLID GOLF BALL

**SUBMISSION OF APPELLANT'S BRIEF ON APPEAL**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. A check for the statutory fee of \$320.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

Date: May 19, 2003



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5/28/03

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**APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellant submits the following Brief, requesting that the Board reverse the rejection of claims 1-5:

**I. REAL PARTY IN INTEREST**

The real party in interest is Bridgestone Sports Co., Ltd. by virtue of an assignment executed by Takashi MARUKO and Michio INOUE (Appellants, hereafter), on May 31, 2001 and June 4, 2001, respectively, and recorded by the Assignment Branch of the U.S. Patent and Trademark Office on June 27, 2001 (at Reel 011953, Frame 0240).

**II. RELATED APPEALS AND INTERFERENCES**

To the knowledge and belief of Appellant, the Assignee, and the undersigned, there are no other appeals or interferences before the Board of Appeals and Interferences that will directly affect or be affected by the Board's decision in the instant Appeal.

**III. STATUS OF CLAIMS**

Claims 1-5 are pending in the application, and stand finally rejected. Claims 1-5 are being appealed.

**IV. STATUS OF AMENDMENTS**

In response to the final Office Action (Paper No. 4) in which claims 1-24 were finally rejected, Appellant filed an Amendment under 37 C.F.R. § 1.116 on February 5, 2003, canceling claims 6-24. The Examiner issued an Advisory Action on February 21, 2003.

**V. SUMMARY OF THE INVENTION**

This invention relates generally to a multi-piece solid golf ball of three or more layer structure comprising a solid core of at least one layer, an intermediate layer, and a cover. *See Specification, page 1, lines 5-8.* Referring to FIG. 2, a multi-piece solid golf ball G according to the present invention is schematically illustrated as comprising a solid core 1, an intermediate layer 2 enclosing the core 1, and a cover 3 enclosing the intermediate layer 2. *Id. at page 5, lines 10-14.* Though not shown in FIG. 2, a multiplicity of dimples are formed on the surface of the ball. *Id. at page 5, lines 17-18.*

The solid core 1 may be formed of a rubber composition primarily comprising a base rubber which is based on polybutadiene rubber, polyisoprene rubber, natural rubber or silicone rubber. *Id. at page 5, lines 19-22.* Preferably the solid core has a diameter of 25 to 40 mm, and a weight of 10 to 40 g. *Id. at page 6, lines 19-21.* Also the solid core should preferably have a deflection of 3 to 4.5 mm, more preferably 3 to 4 mm, under an applied load of 100 kg. *Id. at page 6, lines 22-24.* Too small a core deflection may lead to a hard feel whereas too large a core deflection may correspond to a low resilience. *Id. at page 6, lines 24-26.*

According to the invention, the intermediate layer 2 of at least one layer, preferably one or two layers, is formed around the core 1. *Id. at page 6, lines 30-32.* The material of which the intermediate layer 2 is formed is not critical. *Id. at page 6, lines 33-34.* Thus, the intermediate layer 2 may be made of materials such as ionomer resins, polyester elastomers, polyamide elastomers, styrene elastomers, polyurethane elastomers, olefin elastomers and mixtures thereof, and other rubbery materials. *Id. at page 6, lines 34-37.* The intermediate layer should have a Shore D hardness of 50 to 65, preferably 53 to 62, and more preferably 56 to 58. *Id. at page 7, lines 16-18.* An intermediate layer with too low a Shore D hardness is too soft, resulting in a lower resilience, increased spin and reduced distance. *Id. at page 7, lines 18-20.* An intermediate layer with too high a Shore D hardness is too hard, resulting in a hard feel and poor durability. *Id. at page 7, lines 20-22.* Finally, the intermediate layer should have a gage or radial thickness of 0.8 to 2 mm, preferably 1 to 2 mm, and more preferably 1 to 1.5 mm. *Id. at page 7, lines 23-25.*

The cover 3 of at least one layer, preferably one or two layers, is formed around the intermediate layer 2. *Id. at page 7, lines 34-36.* The cover is formed mainly of conventional thermoplastic resins such as urethane resins, ionomer resins, polyester elastomers, polyamide elastomers, styrene elastomers, polyurethane elastomers, olefin elastomers and mixtures thereof. *Id. at page 8, lines 1-5.* The cover material should preferably have a melt index of at least 3.0 dg/min, more preferably 3.0 to 50 dg/min, even more preferably 5.0 to 40 dg/min, and most preferably 5.0 to 20 dg/min, as measured at 190°C according to JIS K6760. *Id. at page 8, lines 13-17.* A resin material with a lower melt index may not flow properly and thus be difficult to

mold into a thin uniform cover. *Id. at page 8, lines 17-18.* The cover should have a Shore D hardness of 37 to 53, and preferably 40 to 50. *Id. at page 8, lines 25-26.* A cover with a higher Shore D hardness is too hard, resulting in less spin and control difficulty. *Id. at page 8, lines 26-28.* A cover with a lower Shore D hardness is too soft, resulting in increased spin and especially, reduced distance on driver shots. *Id. at page 8, lines 28-30.* The cover should have a gage or radial thickness of 0.5 to 1.3 mm, preferably 0.5 to 1.0 mm, and more preferably 0.8 to 1.0 mm. *Id. at page 8, lines 31-33.*

The invention requires that the gage G1 (mm) of the intermediate layer and the gage G2 (mm) of the cover satisfy  $[G1/(G1+G2)] * 100 \geq 45\%$ . *Id. at page 9, lines 1-3.* The preferred relationship is  $45\% \leq [G1/(G1+G2)] * 100 \leq 70\%$ , more preferably  $45\% \leq [G1/(G1+G2)] * 100 \leq 65\%$ , and even more preferably  $50\% \leq [G1/(G1+G2)] * 100 \leq 65\%$ . *Id. at page 9, lines 3-6.* When this relationship is satisfied, the golf ball will achieve a reduced spin rate and an increased initial velocity, thus allowing a golfer to hit the golf ball farther with the driver. *Id. at page 9, lines 17-21.*

## VI. ISSUES

1. Whether claims 1-3 and 5 are anticipated under 35 U.S.C. § 102(b) by or, in the alternative, obvious under 35 U.S.C. § 103(a) over Higuchi (U.S. Patent No. 5,704,854).
2. Whether claim 4 is obvious under 35 U.S.C. § 103(a) over Higuchi (U.S. Patent No. 5,704,854), in view of Sullivan (U.S. Patent No. 5,688,869).

## VII. GROUPING OF CLAIMS

Claims 1-5 stand or fall together.

**VIII. ARGUMENTS**

Appellant respectfully requests that the Board reverse these rejections for the following reasons.

**A. Claims 1-3 and 5.**

Claims 1-3 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Higuchi (U.S. Patent No. 5,704,854).

To be an “anticipation” rejection under 35 U.S.C. § 102, the reference must teach every element and limitation of the Applicants’ claims. Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art.

Moreover, to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a) the Examiner must show that the prior art references, when combined, teach or suggest all of the claim limitations. See MPEP § 2143. As a result, in order for the Examiner to maintain a rejection under either 35 U.S.C. §§ 102 or 103, the references must teach or suggest all of the limitations of the claims.

Applicant respectfully submits that the references cited above by the Examiner fail to teach or suggest all of the claim limitations as set forth in the present invention. Specifically, Appellant submits that the Higuchi reference fails to teach or suggest an intermediate layer having a Shore D hardness of 53 to 65 and a cover having a Shore D hardness of 37 to 50.

The Examiner’s has maintained the position that Higuchi teaches a cover hardness range of 45-58 which is within the claimed range of 37-50. Furthermore, the Examiner has maintained that Higuchi teaches an IML Shore D hardness of 30-55 which is within the claimed range of 53-

65. Although Higuchi also teaches that "the intermediate layer is softer than the cover by a hardness difference of 2-20, especially 5 to 15 on Shore D," the Examiner states that Higuchi anticipates solely because the disclosed hardness ranges overlap the claimed ranges. As Appellant has explained to the Examiner and will demonstrate below, the golf ball taught by Higuchi, when considered as a whole, does not fall within the claimed ranges and, in fact, teaches the opposite hardness relationship between the cover and the IML.

Claim 1 recites an IML Shore D hardness of 53-65 and a cover hardness of 37-50. Thus, the IML of claim 1 is harder than the cover. The Examiner argues that although Higuchi does not teach that the intermediate layer ("IML") is harder than the cover, Higuchi does teach the claimed hardness range for both the intermediate layer and the cover, and thus, the claims are anticipated by Higuchi. Appellant submits that this conclusion is not taught or supported by the Higuchi reference.

Higuchi teaches that the IML must be softer than the cover by 2-20 Shore D degrees. *See Higuchi, col. 3:45-53.* Claim 1 recites an intermediate layer having a Shore D hardness of 53-65 while Higuchi teaches an intermediate layer having a Shore D hardness of 30-55. Accordingly, the only values taught by Higuchi which fall within the claimed range are when the intermediate layer Shore D hardness is 53, 54, or 55. Since Higuchi teaches that the intermediate layer is 2-20 Shore D degrees less than the cover hardness, based on intermediate layer Shore D hardness values of 53-55, the cover Shore D hardness of Higuchi would be at least 55-57, which is outside the claimed range of 37-50.

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Higuchi IML Hardness (Must be 2-20 Shore D <u>softer (or less) than</u> cover)	Higuchi corresponding cover hardness	Claim 1 cover hardness 37-50
53	55-73	Outside claim range
54	56-74	Outside claim range
55	57-75	Outside claim range

In essence, the Examiner is ignoring the teaching of Higuchi that the intermediate layer must be softer than the cover hardness, which is the opposite relationship that is recited in claim 1. Instead, the Examiner is looking only to parts of the teachings of Higuchi which teach claim ranges, and not considering the teachings of Higuchi as a whole. “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” MPEP §2141.02 *citing W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (emphasis in original). When taken as a whole, Higuchi clearly teaches that the IML must be softer than the cover by 2-20 Shore D degrees, and thus, cannot teach or suggest the limitations recited in claims 1-3 and 5.

Furthermore, anticipation requires identity of invention: the claimed invention, as described in appropriately construed claims, must be the same as that of the reference, in order to anticipate. *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 45 F.3d 1550, 1554 (Fed. Cir. 1995); *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1267, 20

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U.S.P.Q.2D (BNA) 1746, 1748 (Fed. Cir. 1991). *See also In re Spada*, 911 F.2d 705, 708, 15 U.S.P.Q.2D (BNA) 1655, 1657 (Fed. Cir. 1990) ("the reference must describe the applicant's claimed invention sufficiently to have placed a person of ordinary skill in the field of the invention in possession of it"). Accordingly, since the hardness relationship between the IML and the cover is opposite from that in claim 1, Appellant submits that Higuchi cannot anticipate the present invention.

In view of the above remarks, Appellant respectfully requests that the rejection of claims 1-3 and 5 under 35 U.S.C. § 102(b) be reversed.

**B. Claim 4**

Since claim 4 depends from claim 1, and since the Sullivan reference does not cure the deficient teachings of Higuchi with respect to claim 1, Appellant submits that claim 4 is patentable at least by virtue of its dependency from claim 1. Accordingly, Appellant respectfully requests that the rejection of claim 4 under 35 U.S.C. § 103(a) be reversed.

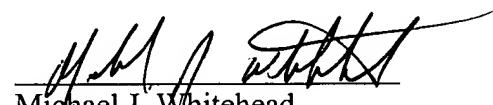
The present Brief on Appeal is being filed in triplicate. Unless a check is submitted herewith for the fee required under 37 C.F.R. §1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: May 19, 2003



## APPENDIX

### **CLAIMS 1-5 ON APPEAL:**

1. A multi-piece solid golf ball comprising a solid core of at least one layer, an intermediate layer enclosing the solid core, and a cover enclosing the intermediate layer, wherein said intermediate layer has a gage  $G_1$  of 0.8 to 2 mm and a Shore D hardness of 53 to 65, said cover has a gage  $G_2$  of 0.5 to 1.3 mm and a Shore D hardness of 37 to 50, and the gage  $G_1$  of said intermediate layer and the gage  $G_2$  of said cover satisfy  $[G_1/(G_1+G_2)] \times 100 \geq 45\%$ .
  
2. The multi-piece solid golf ball of claim 1 wherein said intermediate layer has a gage  $G_1$  of 1 to 2 mm.
  
3. The multi-piece solid golf ball of claim 1 wherein said solid core undergoes a deflection of 3 to 4.5 mm under an applied load of 100 kg.
  
4. The multi-piece solid golf ball of claim 1 wherein said cover is formed of a cover material having a melt index of at least 3.0 dg/min at 190°C.
  
5. The multi-piece solid golf ball of claim 1 wherein said cover is formed of a urethane resin.